Efficacy and Safety of Updated Target Therapies for Treatment of Platinum-Resistant Recurrent Ovarian Cancer

Authors : John Hang Leung, Shyh-Yau Wang, Hei-Tung Yip, Fion, Ho Tsung-chin, Agnes LF Chan

Abstract : Objectives: Platinum-resistant ovarian cancer has a short overall survival of 9–12 months and limited treatment options. The combination of immunotherapy and targeted therapy appears to be a promising treatment option for patients with ovarian cancer, particularly to patients with platinum-resistant recurrent ovarian cancer (PRrOC). However, there are no direct head-to-head clinical trials comparing their efficacy and toxicity. We, therefore, used a network to directly and indirectly compare seven newer immunotherapies or targeted therapies combined with chemotherapy in platinum-resistant relapsed ovarian cancer, including antibody-drug conjugates, PD-1 (Programmed death-1) and PD-L1 (Programmed death-ligand 1), PARP (Poly ADP-ribose polymerase) inhibitors, TKIs (Tyrosine kinase inhibitors), and antiangiogenic agents. Methods: We searched PubMed (Public/Publisher MEDLINE), EMBASE (Excerpta Medica Database), and the Cochrane Library electronic databases for phase II and III trials involving PRrOC patients treated with immunotherapy or targeted therapy plus chemotherapy. The quality of included trials was assessed using the GRADE method. The primary outcomes compared were progression-free survival, the secondary outcomes were overall survival and safety. Results: Seven randomized controlled trials involving a total of 2058 PRrOC patients were included in this analysis. Bevacizumab plus chemotherapy showed statistically significant differences in PFS (Progression-free survival) but not OS (Overall survival) for all interested targets and immunotherapy regimens; however, according to the heatmap analysis, bevacizumab plus chemotherapy had a statistically significant risk of ≥grade 3 SAEs (Severe adverse effects), particularly hematological severe adverse events (neutropenia, anemia, leukopenia, and thrombocytopenia). Conclusions: Bevacizumab plus chemotherapy resulted in better PFS as compared with all interested regimens for the treatment of PRrOC. However, statistical differences in SAEs as bevacizumab plus chemotherapy is associated with a greater risk for hematological SAE.

Keywords : platinum-resistant recurrent ovarian cancer, network meta-analysis, immune checkpoint inhibitors, target therapy, antiangiogenic agents
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